REMARKS

This paper responds to the Office Action mailed on June 27, 2005. Reconsideration is respectfully requested based on the following remarks.

Rejections under 35 U.S.C. § 112

Claim 13 stands rejected under 35 U.S.C. § 112 because the term "the first four" lacks antecedent basis. Applicant submits that the term "the first four steps" does have an antecedent basis because there are in fact a first four (of five total) steps recited in claim 1. Changing the antecedent "the" to "a" in this claim would make the claim less clear. Nonetheless, claim 13 has been amended to more clearly make reference to the first four method steps of claim 1.

Rejections under 35 U.S.C. §§ 102(e) and 103(a)

Claims 1-13 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,775,260 (Dabak). Claims 14-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dabak, and claims 32-34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dabak in view of U.S. Application Publication No. 2002/0084933. These rejections are respectfully traversed.

Each of the rejections set forth in the Office Action rely on the cited Dabak reference. Applicants submit that each of the rejected claims are patentably distinct from the Dabak reference, either alone or in combination, and that the rejections are therefore improper.

The Dabak reference is unrelated to the invention set forth in the claims of the present application. Each of the rejected claims relates to a method or apparatus for estimating a frequency error between a reference frequency and a received STTD signal. As illustrated in

Figure 3 of the present application, a frequency discriminator (FD) 20 may be used to detect a frequency error e(t) between a received STTD signal and a reference frequency that is generated by a controlled oscillator 10. The frequency error estimate calculated by the frequency discriminator 20 may be used in a closed-loop feedback circuit to automatically control the input voltage to the controlled oscillator 10 to phase align the reference signal with the received STTD signal. The claims of the present application relate to the means by which this frequency error estimate between the reference frequency and received STTD signal is calculated.

The Dabak reference is not directed to frequency error calculation. Rather, Dabak addresses the problem of inter-symbol interference in STTD transmissions. The only disclosure in Dabak that relates to phase correction is set forth at column 6, lines 31-58, with reference to Figure 6B. However, the phase correction circuit shown in Figure 6B of Dabak is clearly distinct from the circuits and methods set forth in the claims of the present application. Notably, among other distinctions, Dabak's phase correction circuit is not incorporated in a feedback circuit, and thus does not generate any type of frequency error estimate. Rather, the phase correction circuit in Dabak multiplies the received signal (R_j^1 and R_j^2) by Rayleigh fading parameters (α_j^1 and α_j^2) and sums the signals to produce path specific symbol estimates (S_1 and S_2). (See, Dabak, column 6, lines 31-58).

Furthermore, it is unclear how (if at all) the citations to the Dabak references made in the Office Action have any relation to the language of the claims. For example, in the rejection of claim 1, the Office Action cites to column 7, lines 45-56 and column 8, lines 16-22 of Dabak as corresponding to the claimed method step of "extracting the frequency error estimate from the correlation function." (See, Office Action, page 3). This citation has no apparent connection to the language of the claim. Rather, the recited portion of the Dabak reference relates to the

calculation of a cross-correlation matrix (R) for determining the <u>interference effect</u> of each path of each finger in the receiver. This has nothing at all to do with frequency error estimation. The citations provided by the Office Action to show correspondence between Dabak and the other elements of independent claim 1 (or any of the other claims for that matter) are equally unrelated to the language of the claims. The Applicant thus contends that the rejections of claims 1-34 based on the Dabak reference fail to make out a prima facie case under either sections 102(e) or 103(a) because they do not (and cannot) show the proper correspondence between the cited reference and the language of the claims.

Conclusion

For the foregoing reasons, Applicants respectfully submit that claims 1-34 are in condition for allowance. The Examiner is, therefore, respectfully requested to pass this case to issue.

Respectfully submitted,

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